

Survey Methods

The list sampling frame maintained by the Michigan Agricultural Statistics Service was the primary source of names of commercial fruit farms. Commercial meant any operation with at least one acre of any tree fruit or one-third of an acre of any berry. Data were collected for every qualifying fruit operation.

Questionnaires and cover letters were mailed to fruit farms on the list frame in October 2000. Growers who responded to the 1997 Fruit Survey were also sent a printout of their responses to that inventory. Data collection continued until the spring of 2001.

The apple section of the survey instrument is shown at the end of this section. Farmers were asked to complete, by block (vineyard or plantation), the block name or number, the county, township and section where that block was located, variety, rootstock or trellis, year of planting, trees, acres and spacing for each variety in the block. Each line within a block represents a different variety, rootstock, year planted or plant spacing.

These detailed data were obtained for 86 percent of the farms. Twenty-nine percent were returned by mail, 47 percent were completed by telephone, and 10 percent were done by personal interview. Eleven percent refused to do the inventory, and three percent could not be contacted. Estimates of total acres of each fruit were made from various sources for the farms for which detailed block records were not available.

The completion rates of the detailed data varied by region and by fruit type. They were calculated by dividing the total acres with complete block data by those acres summed with estimated acres for refusals and inaccessible. These rates are shown as percentages in the accompanying table. Inverses of those completion rates were used to expand detailed data to total acreage totals by fruit and district. The higher the completion rate for a district and fruit, the more accurate are the detailed data shown in the two-way and three-way tables of this bulletin.

Completion rates: Percent of acreage completed by fruit and district

District	Apples	Blue-berries	Bram-bles	Cherries, sweet	Cherries, tart	Cran-berries	Grapes	Necta-rines	Peaches	Pears	Plums	Straw-berries	Total
Northwest	80.9	92.6	97.9	77.5	82.0	100.0	85.3	83.3	69.8	73.4	75.0	96.6	80.8
Oceana-Mason	82.1												
Grand Rapids	76.6												
West Central	77.8	85.5	64.4	83.0	80.9	100.0	100.0	93.3	79.7	82.9	70.4	77.2	79.3
Southwest	81.6	92.1	69.7	88.0	82.4	84.8	88.5	87.6	81.0	91.2	86.2	94.6	86.4
East	78.3	93.0	92.7	75.6	69.5	100.0	96.9	100.0	62.5	72.4	55.6	80.0	79.5
Michigan	79.2	89.8	81.9	78.5	81.7	96.0	88.4	88.5	79.2	86.5	77.2	84.3	82.3

Acres

Color	Acres
Yellow	2,000–9,999
Green	10,000 or more

Michigan is one of the nation's major fruit producing states, largely because of Lake Michigan's moderating influence on the weather of western areas of the state. Cold air passing over the unfrozen lake in winter is warmed, while hot air passing over in the summer is cooled. This "lake effect" also helps delay spring tree bloom in the spring, which lessens the possibility of freeze damage. In addition, the dry arctic or polar air picks up substantial amounts of moisture as it passes over the unfrozen lake, which is deposited as snow or rain over the surrounding land.